

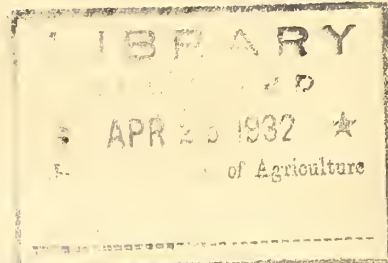
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DIRECTIONS FOR POISONING AND TRAPPING POCKET GOPHERS\*

Two of the most effective methods of destroying pocket gophers are poisoning and trapping, and frequently a combination of the two methods is necessary. Control of a heavy infestation over a large area calls for poisoning or for a combination of poisoning and trapping. On small areas, however, or on large tracts where there is only a small number of animals, the use of traps is usually sufficient and satisfactory.

Control operations can best be conducted during the periods of pocket-gopher activity, usually indicated by the presence of fresh mounds of dirt. In most localities the animal as a rule is most active in fall and during a short period in spring. In the Southwest, however, the period of activity extends from the latter part of September to the last of May. During the fall, control operations can be carried on with the least interference caused by growing crops, and the runways are more easily located than at any other time of year.

POISONING

The baits most commonly used in poisoning pocket gophers are sweetpotatoes, carrots, parsnips, potatoes, turnips, and beets; in most cases the acceptability of these baits is in the order listed. Wheat, oats, and other grains make acceptable baits in some localities. In some sections of the country, particularly in the Northwest, it is advisable also to use green baits of fresh clover or alfalfa tops. Vegetable baits should be cleaned well and cut into pieces about 1/2 inch square and 1 1/2 inches long. The following formulas are recommended.

Formula No. 1 (Vegetable Baits)

Sweetpotatoes or carrots - - - - - 16 qts.

Strychnine alkaloid (powdered) - - - - - 1 oz.

Put the strychnine in a sifter and dust the pieces of vegetable while they are being stirred.

Formula No. 2 (Green Baits)

Green clover or alfalfa leaves - - - - - 10 lbs.

Strychnine alkaloid (powdered) - - - - - 1 oz.

Gather the leaves fresh from the field at a time when they are free from moisture, such as dew or rain, and keep them clean. Spread them on a heavy paper or in a tight box or washtub and sift on them the

\*Supersedes Bi-175, Directions for Poisoning Pocket Gophers

powdered strychnine from a pepper shaker, stirring them until thoroughly mixed. Prepare only what can be exposed in one day.

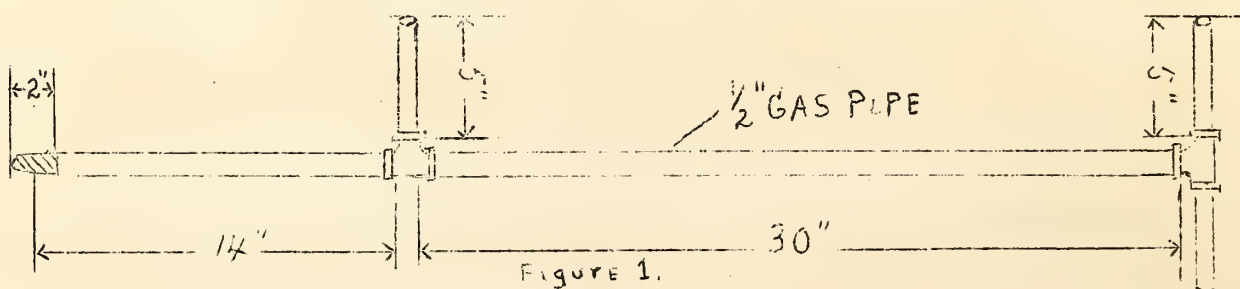
Formula No. 3 (Grain Baits)

Wheat (plump kernels) or steamed rolled oats - - 16 qts.  
Cold water - - - - - 3/4 pt.  
Laundry starch - - - - - (1 tablespoon) 2/5 oz.  
Karo or similar syrup - - - - - 1/4 pt.  
Glycerine - - - - - (1 tablespoon) 1/2 oz.  
Powdered strychnine alkaloid - - - - - 1 oz.  
Baking soda - - - - - (1 tablespoon) 1 oz.

Mix well the laundry starch with the cold water then while stirring the mixture bring it to a boil and cook it until a paste free of lumps is obtained. Stir in the syrup and then the glycerine. After mixing the strychnine and soda in a 1-gallon container add the hot paste and mix thoroughly. Pour this mixture over the grain and again mix it thoroughly. Spread it and let it dry.

Generally speaking, pocket gophers found in the western half of the United States can be successfully poisoned with formula No. 1. The large Willamette pocket gopher in Willamette Valley, Oreg., is an exception, and is best controlled with the clover leaves in formula No. 2. For the large Townsend pocket gopher in Snake River and Boise Valleys, in southern Idaho, either formula No. 1 or the alfalfa leaves in formula No. 2 may be used. For the large species of the prairie States, which have shown a preference for grain baits, wheat is most generally accepted, and formula No. 3 may be used.

Two effective methods of placing the baits are: (1) Using a probe, and (2) using a strong garden trowel, shovel, or implement made especially for the purpose. The probe method is the more easily applied and the quicker way of distributing the poison, but it does not always insure the correct placement of the baits. When used by an experienced person, however, they can be as effectively distributed this way as with the trowel method. For limited use in light, sandy soil a satisfactory probe can be made of any strong handle, such as a broom, fork, or shovel handle. One end should be bluntly pointed, and a foot rest may be attached to the side to aid in probing. A more durable probe can be made of 1/2-inch galvanized pipe, one piece 30 inches long, one 14 inches, and 3 pieces each 5 inches long. The 30-inch piece should be threaded at both ends, and the others at one end only. A piece of round iron about 2 inches in length should be welded into the unthreaded end of the 14-inch piece of pipe and bluntly pointed. These pieces should then be arranged and fitted together by the use of two 1/2-inch T joints as shown in Figure 1.



Baits should be placed in clean, used, main runways. The common practice of locating a main runway, from the surface of the ground, is to probe between two fresh mounds, taking for granted that the runway has a direct connection with the mounds. One can not always be sure of locating the main runway by this method, however, for the reason that the mounds are built at the mouth of the laterals with the main runways extending back from them, in some cases a comparatively long distance and often the main runways are not straight but run in divers directions.

An effective method, particularly after a person has had considerable experience, is to determine the location of the main runway from the shape of the mound, which is generally thrown up on the surface in the shape of a fan. Usually the main runway can be located in front of the base of this fan-shaped mound. Therefore, by probing about 18 inches from the base, one usually can locate the main runway in not more than two trials. The same reasoning can be used in locating the main runway with a trowel, the only difference being that when a tunnel is located there need be no question as to whether or not it is a used main runway, which is not always the case when a probe is used.

After the runway is located, two or three of the baits, if vegetables are used, are inserted through the opening. In case grain baits are used, a level tablespoonful is placed in the runway. When green clover or alfalfa is used a small handful of the material is placed at each baiting. After the baits have been inserted, the hole is covered with vegetation, hard dirt, or some material that will not crumble and drop into the runway, and loose dirt is put on top. Each system of runways should be baited at two or more places to assure the correct placing of the baits and to increase the chances of one being eaten. To destroy all the pocket gophers on an infested area, it is often necessary to give two or more treatments.

Success in poisoning depends largely on the cleanliness with which the baits are handled and the care and accuracy employed in distributing them. It is important that they be placed in clean, used, main runways; otherwise the pocket gopher is not likely to come in contact with them within the desired time. The animal's habit of filling unused runways with comparatively loose dirt contributes to the misplacement of baits, because sticking a probe in one of these loosely filled runways gives an impression much like that received in probing a used runway. Should the bait be placed in an unused runway, it may never be noticed by the animal. Often an operator will mistake a lateral or side tunnel for the main runway. Placing a bait in one of these laterals would not be effective, because they are used largely in carrying dirt to the surface. To be sure of placing the bait in the main runway rather than in a side runway, it is well to place it about 18 inches from the mound, as the side runways, or laterals, are usually less than 18 inches in length. When a probe is used, care should be exercised to avoid making a deep depression in the floor of the runway; if such a depression is made the baits will drop into it and will not be readily taken. It is desirable to use fresh baits, particularly in the case of vegetables or greens.



## TRAPPING

There are several effective and inexpensive traps made especially for trapping pocket gophers. A common steel trap may be used, but in comparison with the special traps its efficiency is so low that its use is not justified.

An operator placing traps should select a freshly constructed mound and locate the burrow near this mound. The mound is somewhat fan-shaped with the plugged lateral at the apex. By the use of a long-handled iron spoon or a strong garden trowel, the lightly plugged opening of the lateral may be cleaned out and enlarged sufficiently to admit the trap. The trap may be set in this lateral. It should not, however, be set in a lateral so short that the trap will extend into the main runway, as pocket gopher traps are not designed to be tripped from the side. Frequently it is advisable to set the traps in main runways rather than in laterals. The main runway may be located by the use of a probe in the same manner as in setting poison baits, or it may be found by digging out a lateral to its junction with the main runway. In a main runway, two traps one facing each way, should be used at each setting so that the animal will be caught whether it comes from one direction or the other (pocket gopher traps are so designed that they catch the animal from only one direction). Whether traps are set in the lateral or in the main runway they should be from 12 to 18 inches back in the runway, and the burrow should be left open or only partly closed, as the air and light attract the pocket gopher to the place to repair the break. In doing so the animal springs the trap and is caught. It is advisable to fasten the lighter traps to stakes by means of a light wire or cord.

To do systematic work in trapping a given area it is well to mark each setting with a stake to which is attached a piece of cloth. A sharpened piece of ordinary lath may be used instead. By thus marking the location of the traps a person not only makes certain that the area is thoroughly covered but also makes it easy to find the traps and give them proper attention.

In using traps, just as in poisoning, it may be necessary to use a combination of methods, for there are wary individuals that are difficult to trap. As a general rule in cases where trapping is not sufficient, poisoning will be an effective follow-up measure, although it may be necessary also to resort to drowning or shooting. Because of the fact that there may be in the burrows a considerable number of young too small to be caught in traps, it is sometimes advisable to place poisoned baits in the runways from which the traps are removed. This procedure is particularly recommended in the Southwest, where the breeding season of pocket gophers extends over a long period of the year.